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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,622

07/05/2007

Lorrene Bayon

979-253

3107

39600

7590

06/13/2011

SOFER & HAROUN LLP.

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EXAMINER

MOORE, MARGARET G

ART UNIT

PAPER NUMBER

1765

MAIL DATE

DELIVERY MODE

06/13/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,622	Applicant(s) BAYON ET AL.	
	Examiner MARGARET MOORE	Art Unit 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 to 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/4/11 has been entered. Please note that the following new ground of rejection is based upon a reference that was issued after the previously mailed final office action.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 to 4 and 13 to 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Siegel et al. (as evidenced by the Nanophase Technologies data sheet for ZnO, attached).

The Examiner notes that Siegel et al. has an effective filing date of 8/30/03 and as such qualifies as prior art in this application.

Siegel et al. teaches nanocomposites with controlled electrical properties. This material includes a filler distributed in a polymeric matrix (abstract). As can be seen from column 5, lines 39 and on, the filler can be zinc oxide which results in a non-linear electrical resistance. Particularly note the working examples starting on column 9, line

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65, which prepares a composition containing ZnO particles distributed in a polymeric matrix. The ZnO particles are from Nanophase Technologies. As evidenced by the attached data sheet from Nanophase Technologies, the ZnO particles are greater than 99% pure. In this manner the instant claims are anticipated by the composition prepared by Siegel et al.

For claims 3 and 18, note that these particles are approx. 50 nm.

For claims 13 to 17, please see columns 1 and 2 of Siegel et al.

5. Claims 12 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Siegel et al.

The ZnO particles in the claimed material appear to be inherently met by the ZnO particles in the teachings of Siegel et al. That is, both have the same particle size requirements, the same compositional requirements and both exhibit non-linear properties. Since the compositions appear to be the same, it follows that the properties associated therewith will inherently also be the same. In this manner the teachings of Siegel et al. inherently meet the instant claims. In addition note that Figure 1 shows materials which meet this resistivity requirement, indicating that the filler therein will inherently meet this requirement as well.

6. Claims 5 to 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siegel et al.

For claims 7 to 11, Siegel et al. teach the addition of non-linear fillers, as noted supra, but in addition Siegel teaches the addition of other fillers, such as titanium dioxide as an insulating filler. See column 5, lines 20 to 38. One having ordinary skill in the art, desiring the benefits of both ZnO and titanium TiO would have been motivated to use both fillers in combination. Adjusting the amount of each filler would have been well within the skill of the ordinary artisan, in an effort to optimize and/or adjust the properties thereof. In this manner the instant claims are rendered obvious.

For claims 5 and 6, the Examiner notes that it is very common in the art to dope an electrically conductive material in an effort to modify the conducting properties

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thereof. One having ordinary skill in the art would have found it obvious to dope the ZnO filler in Siegel et al. with a commonly used doping agent, such as S or B, in an effort to modulate and/or optimize the electrical properties thereof in a known and predictable manner.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARGARET MOORE whose telephone number is (571)272-1090. The examiner can normally be reached on Monday, Wednesday and Friday, 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/
Primary Examiner, Art Unit 1765

Mgm
6/7/11